

We Claim:

1. An ultrasound applicator for applying ultrasound energy to the thoracic cavity comprising a housing sized for placement on a chest on or near the sternum,

5 an ultrasound transducer carried within the housing to transcutaneously apply ultrasound energy to the thoracic cavity, the ultrasound transducer being sized to provide a power density not exceeding 3 watts/cm² at a maximum total power output of no greater than 200 watts operating at a fundamental therapeutic frequency not exceeding 500 kHz, and

10 an assembly worn on the chest and adapted to be affixed to the housing, to stabilize placement of the housing on the chest during application of ultrasound energy.

15 2. An applicator according to claim 1 wherein the assembly includes a quick release mechanism.

3. An applicator according to claim 1 wherein the assembly includes a quick release material.

4. An applicator according to claim 1 wherein the assembly comprises a sling worn between the waist and shoulders.

5. An applicator according to claim 1 wherein the assembly includes a halter worn about the chest and shoulders.

6. An applicator according to claim 1 wherein the assembly includes spaced apart members near the housing that allows another treatment device to be placed on the chest near the applicator.

7. An applicator according to claim 1 wherein the housing includes a chamber to hold fluid about the ultrasound transducer.

8. An applicator according to claim 1 wherein the housing accommodates circulation of fluid about the ultrasound transducer.

9. An applicator according to claim 1 wherein the housing includes an ultrasound conducting interface.

10. An applicator according to claim 1 wherein the housing includes a contour-conforming interface with skin.

11. An applicator according to claim 1 wherein the housing includes a skirt that spaces the ultrasound transducer from contact with skin.

12. An applicator according to claim 1 wherein the housing includes an ultrasound-conducting membrane for contacting skin.

13. An applicator according to claim 1 wherein the housing is elongated along the axis of the sternum.

14. An applicator according to claim 1 wherein the housing includes a coupling assembly to releasably couple the ultrasound transducer to an external electric signal generating machine.

15. An applicator according to claim 14 wherein the coupling assembly includes a quick coupling mechanism.